

Claims

1. An insertion part (1, 100) comprising a housing (2), which can be inserted into a gas or liquid line, with an annular lip shaped part (3) being arranged inside of the housing, held with an annular body (6) thereof in the inside of the housing and being located in an area of a feeder channel, the annular lip shaped part having at least one lip (9) that can be displaced by a fluid and cooperates with an opposing housing wall, characterized in that the insertion part (1, 100) is embodied as a flow regulator, with the lip shaped part being provided with at least one control lip (9), embodied as a throttle body or control body and aligned with a free lip end extending in a direction towards an adjacent housing wall, with the control lip (9) limiting a control gap, that changes depending on pressure, between the control lip and the adjacent housing wall.
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- 15 2. An insertion part (100) according to claim 1, characterized in that the insertion part (100) further comprises a back-flow preventer and that the annular lip shaped part (3) of the insertion part (100) has at least one sealing lip (14), which is arranged movably inside the housing and which is provided as a sealing body sealing a flow opening of the feeder channel in a closed position, with the sealing lip (14) having a free lip end region that contacts an opposing housing surface in a sealing manner in the closed position.
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- 25 3. An insertion part according to claims 1 or 2, characterized in that a housing core (10) is provided inside the housing which limits a flow opening between the housing core and an interior circumference of the housing, and that the lip shaped part (3) is held with the annular body (6) thereof at the interior circumference of the housing and contacts the housing core (10) with the free lip end region in a sealing manner in the closed position.
- 30 4. An insertion part (1, 100) according to claim 3, characterized in that the lip shaped part (3) is held with the annular body (6) thereof to an interior

circumference of the housing and is aligned with the free lip end of the control lip (9) extending in the direction of the adjacent housing wall of the housing core (10).

5 5. An insertion part according to one of claims 1 through 4, characterized in that the
lip shaped part (3) has at least one upstream control lip (9) and at least one
downstream sealing lip (14).

10 6. An insertion part according to one of claims 1 through 5, characterized in that the
at least one control lip (9) is aligned with the free lip end region in an opposite
direction to a flow direction (Pf1) of the fluid and limits an upstream open annular
space (11) between the control lip and the interior circumference of the housing.

15 7. An insertion part according to one of claims 1 through 6, characterized in that the
housing wall adjacent to the free lip end of the control lip (9) is provided with a
control profiling, which is formed by grooves or moldings (13) aligned for
example in the flow direction (Pf1).

20 8. An insertion part according to claim 7, characterized in that the grooves or
moldings (13) are embodied as flow channels open in a direction of the
circumference of the housing core.

25 9. An insertion part according to one of claims 1 through 8, characterized in that the
grooves or moldings (13), preferably evenly distributed over the circumference of
the housing wall, are ellipsoid, polygon-shaped, arc-shaped, or similarly rounded.

10. An insertion part according to one of claims 1 through 9, characterized in that the
sealing lip (14) is aligned with the free lip end region thereof extending in the
flow direction (Pf1.)

11. An insertion part according to one of claims 1 through 10, characterized in that the housing wall is provided with a core section free of the grooves or moldings in an area impinged by the sealing lip (14.)

5 12. An insertion part according to one of claims 1 through 11, characterized in that the lip shaped part (3) is made from an elastic rubber or plastic material.

10 13. An insertion part according to one claims 1 through 12, characterized in that a reaction pressure and a reaction behavior of the control lip (9) and/or the sealing lip (14) are predetermined by a length, a thickness, or a similar design and dimension of the lip(s) (9, 14) and/or by material characteristics of the lip shaped part (3.)

15 14. An insertion part according to one of claims 1 through 13, characterized in that the housing (2) of the insertion part (1, 100) is made from at least two parts and that the annular lip shaped part (3) is held with the annular body (6) between two adjacent ones of the housing parts (4, 5.)

20 15. An insertion part according to one of claims 1 through 14, characterized in that the annular body (6) of the lip shaped part (3) comprises a housing part seal for the adjacent housing parts (4, 5.)

25 16. An insertion part according to one of claims 1 through 15, characterized in that at least one control lip and/or sealing lip (9, 14) is provided on both sides of the lip shaped part (3) and that the control and/or sealing lips (9, 14) are arranged in an area of the corresponding flow opening and/or in the area of the control gap.

30 17. An insertion part according to claim 16, characterized in that the lip shaped part (3) is preferably essentially star shaped or x-shaped, the control lip (9) and the sealing lip (14) are provided on both sides of the annular body (6) and that the lips

(9, 14) provided on the opposite sides of the annular body (6) are each allocated to a control gap with at least one downstream flow opening.

18. An insertion part according to one of claims 1 through 15, characterized in that
5 the annular body (6) of the lip shaped part (3) is fastened in a housing chamber (7) between the upstream and the downstream housing parts (4, 5.)

19. An insertion part according to claim 18, characterized in that the housing chamber
10 (7) is configured in a closed manner and that a connecting part (8) of the lip shaped part extends through the annular gap, connecting the annular body (6) with the control and/or the sealing lips.

20. An insertion part according to one of claims 1 through 19, characterized in that
15 the housing parts (4, 5) adjacent to the lip shaped part (3) are snapped together.

21. An insertion part according to one of claims 2 through 20, characterized in that
the housing core (10) is preferably tapered or cone shaped in the flow direction and is connected in one piece with preferably the upstream housing part (4) via at least one radial connecting bar (12.)

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Amended Sheet